

CLAIMS

The invention claimed is:

1 1. A set comprising:
2 an RF transponder to use with a toy;
3 at least two antennas to emit detection signals to the RF transponder; and
4 a multiplexer coupled to the two antennas to activate a first one of the antennas at a
5 different time interval than a second one of the antennas.

1 2. The set of claim 1, wherein
2 the multiplexer is to activate periodically the first and the second antennas.

1 3. The set of claim 1, wherein
2 the antennas are coil antennas.

1 4. The set of claim 3, wherein
2 the coil antennas have single turn coils.

1 5. The set of claim 1, wherein
2 each of the antennas has a main axis, and
3 the antennas are oriented such that their respective main axes are not parallel to each
4 other.

1 6. The set of claim 1, wherein
2 each of the antennas has a main axis, and
3 the antennas are oriented such that their respective main axes are substantially parallel to
4 each other.

1 7. The set of claim 1, wherein
2 each of the antennas has a main plane, and
3 the antennas are oriented such that their respective main planes are substantially parallel
4 to each other, but they do not belong in the same plane.
5

1 8. The set of claim 1, further comprising:
2 a program adapted to determine which one of the two antennas receives a return signal
3 from the RF transponder.

1 9. A set comprising:
2 a toy figurine including an RF transponder;
3 at least two antennas to emit respective first and second detection signals at different
4 times from each other;
5 an antenna reader to receive a return signal from the RF transponder responsive to one of
6 the first and second detection signals.

1 10. The set of claim 9, further comprising:
2 an antenna driver; and
3 a multiplexer to receive a single antenna drive signal from the antenna driver, and to
4 direct the antenna drive signal alternatingly between the first antenna and the second antenna to
5 cause them to emit the first and second detection signals.

1 11. The set of claim 9, further comprising:
2 a program adapted to determine an identity of the toy figurine.

1 12. The set of claim 9, further comprising:
2 a program adapted to determine a location of the toy figurine.

1 13. A set for use with a program comprising:
2 a play device;
3 at least two antennas to emit respective first and second detection signals at different time
4 intervals, the antennas positioned at first and a second antenna locations of the play device
5 respectively;
6 a first toy to place on the play device including a first RF transponder to generate a first
7 return signal in response to the first detection signal; and

8 a second toy to place on the play device including a second RF transponder to generate a
9 second return signal in response to the second detection signal;
10 wherein the program is adapted to identify the first return signal with the first toy and the
11 second return signal with the second toy.

1 14. The set of claim 13, further comprising:
2 an antenna driver; and
3 a multiplexer to receive a single antenna drive signal from the antenna driver, and to
4 direct the antenna drive signal alternatingly between the first antenna and the second antenna to
5 cause them to emit the first and second detection signals.

1 15. The set of claim 13, wherein
2 the program is adapted to determine first and second locations relative to the play device
3 for the first and the second toys from the first and second return signals, respectively.

1 16. The set of claim 13, wherein
2 the first RF transponder has a first response characteristic,
3 the second RF transponder has a second response characteristic different from the first
4 response characteristic, and
5 the program is further adapted to determine which of the first and second toys is at the
6 first location.

1 17. The set of claim 9, wherein
2 the RF transponder is detachably connected to the toy figurine.

1 18. An article comprising: a storage medium, said storage medium having stored
2 thereon instructions, that, when executed by at least one device, result in:
3 emitting a first detection signal from a first antenna;
4 emitting a second detection signal from a second antenna at a different time interval than
5 emitting the first detection signal;

6 receiving a return signal from an RF transponder in response to one of the first and
7 second detection signals; and
8 determining which one of the first and second antennas received the return signal.

1 19. The article of claim 18, wherein the instructions further result in:
2 determining a response characteristic of the return signal; and
3 matching the determined response characteristic with a response characteristic stored in a
4 memory.

1 20. The article of claim 18, wherein the instructions further result in:
2 determining which antenna provided the return signal.

1 21. The article of claim 20, wherein the instructions further result in:
2 looking up a location of the antenna that provided the return signal.

1 22. A method comprising:
2 emitting a first detection signal from a first antenna;
3 emitting a second detection signal from a second antenna at a different time interval than
4 emitting the first detection signal; and
5 receiving a return signal from an RF transponder in response to one of the first and
6 second detection signals.

1 23. The method of claim 22, further comprising:
2 receiving a single antenna drive signal; and
3 multiplexing the antenna drive signal between the first antenna and the second antenna.

1 24. The method of claim 22, further comprising:
2 determining a location of the RF transponder from the return signal.

1 25. The method of claim 22, further comprising:
2 determining a response characteristic of the return signal; and

